CONDUCT OF OPERATIONS COURSE

Lesson Title: Equipment Control

Reference:
(a) DOE 5480.19, Conduct of Operations Requirements for DOE Facilities
  - Chapter 8   Control of Equipment
  - Chapter 9   Lockout and Tagout
  - Chapter 10   Independent Verification
  - Chapter 18   Equipment Labeling
(b) DOE-STD-1039-93, Guide to Good Practices for Control of Equipment and System Status
(c) DOE-STD-1030-92, Guide to Good Practice for Lockouts and Tagouts
(d) DOE-STD-1036-93, Guide to Good Practices for Independent Verification
(e) DOE-STD-1044-93, Guide to Good Practices for Equipment and Piping Labeling

Objective: Upon completion of this lesson:

1. Understand the requirements of DOE 5480.19 regarding equipment control at DOE facilities and associated impact on safety and efficiency of operations. (1.b)

2. Refer to a copy of DOE 5480.19 and locate applicable guidelines and requirements for specific activities. (1.a)

3. Describe the key elements of a lockout and tagout system. (1.o)

I: Guidelines

A. Components: DOE 5480.19, Chapters 8, 9, 10, 18

   1. **Control of Equipment and System Status:** Establishes formal guidance to ensure that the configuration of all equipment is maintained and operators know the status at all times. This ensures that personnel, equipment, and environmental safety is maintained through proper component, system, and equipment configuration management.

- Status Change Authorization and Reporting:

- Equipment and System Alignment:

- Equipment Locking and Tagging:

- Operational Limits Compliance:

- Equipment Deficiency Identification and Documentation:

- Work Authorization and Documentation:

- Equipment Post-Maintenance Testing and Return to Service:

- Alarm Status:

- Temporary Modification Control:

- Distribution and Control of Equipment and System Documents:

2. **Lockout and Tagout (LO/TO):** Establishes a method of equipment control through locking and tagging to protect personnel from injury, protect equipment from damage, maintain operability, and maintain physical boundaries.

- Lockout/Tagout Use:

- Lockout and Tagout Implementation:

- Protective Materials and Hardware:

- Lockout/Tagout Program:

- Procedures for Lockout/Tagout:

- Application of Lockout/Tagout:

- Testing or Positioning of Equipment or Components:

- Periodic Inspections:

- Caution Tags:

- Training and Communication:

- Lockout or Tagout Implementation:

- Notification of Personnel:

- Outside Contractors:

- Group Lockouts or Tagouts:

- Shift or Personnel Changes:

3. Independent Verification: Establishes a method to ensure that facility components are positioned correctly, so that every facility system operates as required.

- Components Requiring Independent Verification:

  Systems and Components with safety related functions -

  Non-safety related components -

- Occasions Requiring Independent Verification:

- Verification Techniques:
  Facility instructions, which describe approved methods for verifying positions of components, exist, and operators are trained on these methods. The following guidelines apply to verification techniques:

  Independence -

  Remote Position Indicators -

Process Parameters -

Throttled Valves -

Surveillance Testing -

Operations Self-Appraisal and Verification -

4. Equipment and Pipe Labeling: ensures positive identification of facility components.

- Components Requiring Labeling:

- Label Information:

- Label Placement:

- Replacing Labels:

II: CONOPS REVIEW

1.   An equipment temperature alarm is disabled. Describe the required actions to ensure proper monitoring and plant safety.

2.   What is the purpose of a system alignment?

3.   Describe the administrative controls required if a temporary system is to be installed.

4.   Briefly describe the terms "lockout" and "tagout".

5. What guidance is provided for "Group Lockouts or Tagouts"?

6. What types of administrative measures should be established that would define controls over "locked components"?

7. What actions are necessary, if any, if the person who applied a LO/TO device is not available to remove it?

8. Can any available lock or tag be used to lockout an energy isolation device? Explain.

9.   Who is responsible for reviewing the record of all active caution tags? What does this review consist of?

10.   Is it allowable to temporarily remove a LO/TO device?

11.   When should a person receive training on the LO/TO program? Are there any re-training requirements?

12.   Are there any requirements concerning the orderly transfer of Lockout or Tagout devices between personnel or shifts?

13. What is independent verification and why is it important?

14. Describe three situations where independent verification would be appropriate.

15. What are some of the methods to ensure that misplaced or damaged labels are replaced?

NOTES